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Remarks

Claims 1-18 are currently pending in the patent application. For the reasons and arguments set forth below, Applicant respectfully submits that the claimed invention is allowable over the cited references.

The non-final Office Action dated October 25, 2006 indicated the following rejections: Claims 1-9 stand rejected under 35 U.S.C. § 102(b) over Kodama (U.S. 6,300,843); claims 1-10 stand rejected under 35 U.S.C. § 103(a) over Nolan *et al.* (U.S. 6,356,161) in view of Kodama; claim 10 stands also rejected under 35 U.S.C. § 103(a) over Applicant's Figure 1 (*APA*) in view of Takenaka *et al.* (U.S. 2002/0067215); and claims 11-17 stand rejected under 35 U.S.C. § 103(a) over *APA* in view of Takenaka and Kodama.

Applicant traverses the Section 102(b) rejections of claims 1-9 because the portions of the Kodama reference cited by the Office Action fail to correspond to claimed limitations directed to an oscillator having a frequency that is dependent upon a difference between the resistance of two resistors. For example, claim 1 is directed to limitations including an oscillator having an oscillation frequency that "is dependent upon a difference between a first resistance value of the first resistor (R1) and a second resistance value of the second resistor (R2), the first resistance value being larger than the second resistance value." Further, "the first resistor (R1) exhibits a first rate of change with temperature, and the second resistor (R2) exhibits a second rate of change with temperature that is larger than the first rate of change." The resistive elements 121 and 123 of Kodama cited in the Office Action fail to correspond to the claimed limitations associated with the first and second resistors. Specifically, the resistive elements 121 and 123 and related discussion in the Kodama reference do not teach or suggest any relative size of the respective resistive elements, that the resistive element 123 exhibits a relatively larger rate of change with temperature, or that an oscillator has a frequency dependent upon any relative size of the resistive elements. *See, e.g.*, Fig. 3; col. 8, lines 12-14; col. 1, 64-67 of the Kodama reference. Referring to column 10, lines 14-19, Kodama teaches away from the Office Action's assertion, in that the resistance element 123 has a smaller rate of change in resistance value relative to temperature, as compared to resistance element 121. In this regard, Kodama's circuit and resistive elements fail to correspond to the claimed limitations.

In view of the above, the cited portions of the Kodama reference fail to correspond to all of the claimed limitations. Accordingly, the Section 102(b) rejections of claim 1, as well as the rejections of claims 2-9 that depend from claim 1, are improper and Applicant requests that they be withdrawn. Notwithstanding the impropriety of the rejections of all of the dependent claims as related to claim 1 above, the limitations of certain dependent claims are addressed further below.

Regarding claim 2, the Office Action cites to different circuits in disparate portions of the specification of the Kodama reference without showing how the different circuits could function together, and therefore has failed to cite correspondence to the claimed limitations as a whole. Specifically, the Office Action cites to portions of Figure 3 as corresponding to the limitations of claim 1, and cites to portions of Figure 1 as corresponding to the limitations of claim 2. However, the Kodama reference teaches that Figures 1 and 3 are two different embodiments of an oscillation circuit that are composed of different elements, and the Office Action has not explained any rationale for combining these circuits or shown how such a combination could function. As indicated at M.P.E.P. § 2131, "the identical invention must be shown in as complete detail as is contained in the ... claim" (citing *Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1239, 9 U.S.P.Q.2d 1913, 1920 (Fed Cir. 1989). M.P.E.P. § 2131 further indicates that various portions of a reference cannot be asserted together to anticipate a claim unless the reference arranges the limitations as they are arranged in the claim. *See, e.g., In re Bond*, 910 F.2d 831, 15 USPQ2d 1566 (Fed. Cir. 1990). In failing to cite any portion of the Kodama reference that shows all of the limitations arranged as claimed in the instant application, the Office Action has failed to show correspondence to the claimed limitations in a manner consistent with M.P.E.P. § 2131. In this regard, the Office Action fails to provide correspondence to the claimed limitations and the Section 102(b) rejection of claim 2 should be withdrawn.

Regarding claims 3 and 4, the Office Action repeats the claimed limitations (*see, e.g.*, page 3, lines 16-17) without citing to any portion of the Kodama reference as corresponding to these claimed limitations as is required. Therefore, the Office Action has provided no correspondence to the claimed limitations. In this regard, the Section 102(b) rejections of claims 3 and 4 are improper and Applicant requests that they be withdrawn.

Regarding claim 6, the cited portions of the Kodama reference do not correspond to claimed limitations directed to an oscillator having a frequency dependent upon the difference between the resistance of two resistors, with the resistance value of the second resister being selected based on a delay associated with a feedback loop of the oscillator. In an attempt to show correspondence, the Office Action states that there are "inherent propagation delays of comparator, inverter, etc." (*see* page 3, lines 21-22); however, this statement does not address the claimed limitations. However, the cited portions of the Kodama reference do not teach or suggest selecting the value of resistive element 123 based upon any feedback delay as in the claimed invention. Accordingly, the Section 102(b) rejection of claim 6 is improper and Applicant requests that it be withdrawn.

Regarding claims 7 and 8, the Office Action's assertion of inherency on page 4, lines 13-18 is improper because it fails to show correspondence to the claimed limitations or to show why the alleged subject matter is inherently present in the reference. "In relying upon the theory of inherency, the examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristic necessarily flows from the teachings of the applied prior art" (*see, e.g.*, M.P.E.P § 2112(IV)). Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient. *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999). In this instance, as alleged support of the conclusion of inherency, the Office Action states that "Kodama's resistive regulation with respect to temperature tends to show evidence pointing towards the inherency of the claimed equations" and that "Kodama appears to provide for resistive values of the first and second resistors dependent on" various characteristics. In this regard, the Office Action only presents possibilities to support the conclusion of inherency, and fails to present objective evidence or cogent technical reasoning as is required. Therefore, the Section 102(b) rejections of claims 7 and 8 are improper and applicant requests that they be withdrawn.

Applicant traverses the Section 103(a) rejections of claims 1-10 over Nolan and Kodama because the cited portions of the Kodama reference fail to correspond to all of the claimed limitations as discussed above in connection with the Section 102(b) rejections of claims 1-9. The Section 103(a) rejections are therefore improper because

the Office Action relies upon the same teachings of the Kodama reference which fail to correspond to the claimed limitations as discussed above. Accordingly, Applicant requests that the rejections be withdrawn.

Applicant further traverses the Section 103(a) rejections of claims 1-10 because the Office Action fails to provide adequate motivation for combining the teachings of Nolan and Kodama. The Office Action asserts that "(i)t would have been obvious ..... to utilize a thermal resistive ladder structure, as disclosed by Kodama, into the CTAT and PTAT devices disclosed in Nolan for the purpose of further stabilizing oscillation frequency with respect to temperature" (*see, e.g.*, page 7, lines 11-14). However, the cited portions of the Nolan reference teach a relaxation oscillator that produces a stable clock frequency over wide variations of ambient temperature (*see, e.g.*, Fig. 3 and related discussion). As such, the Office Action fails to provide evidence of motivation showing why one of skill in the art would modify the Nolan reference when Nolan already provides a stable clock frequency with respect to temperature. Therefore, the Section 103(a) rejections are improper and Applicant requests that they be withdrawn.

Moreover, the Office Action fails to assert how the addition of the "resistive ladder structure" of Kodama to the CTAT and PTAT devices of Nolan would in any way further stabilize Nolan's oscillation frequency with respect to temperature. The cited portions of the Kodama reference teach that the "resistive ladder structure" is designed to compensate for a change in the resistance value of resistor 40 due to a change in temperature (*see, e.g.*, Fig. 1 and col. 5, line 60 to col. 6, line 34). This change in the value of resistor 40 causes the time at which the signal of node N2 reaches node N1 to change, which would normally effect the oscillation cycle of the oscillation signal. The CTAT and PTAT devices of Nolan do not appear to have any structure that corresponds to the resister 40 of Nolan; as such, Applicant fails to see how the addition of the "resistive ladder structure" of Kodama would in any way further stabilize the oscillation frequency with respect to temperature as asserted by the Office Action. Therefore, the Section 103(a) rejections of claims 1-10 are improper and Applicant requests that they be withdrawn.

Applicant also traverses the Section 103(a) rejection of claim 10 over *APA* in view of Takenaka because the cited portions of the Takenaka reference do not correspond to the claimed limitations as asserted by the Office Action. The Office Action asserts that

"a first branch [P41, R10, P40] and a second branch [N40, R11, N41]" of amplitude control circuit 50 feed a relation oscillator 5 that is similar to that of the *APA* (*see, e.g.*, page 11, lines 10-13). However, the cited portions of the Takenaka reference teach that an oscillation control circuit 40 feeds the relaxation oscillator 5, not the branches of the amplitude control circuit 50 as asserted by the Office Action (*see, e.g.*, Figs. 12B, 12C and 13A). The outputs VP and VN of the oscillation control circuit 40 feed the relaxation oscillator 5. In this regard, the Office Action misinterprets the teachings Takenaka, which do not correspond to the claimed limitations, and as such the Takenaka reference fails to teach the claimed limitations as asserted. Accordingly, the Section 103(a) rejection of claim 10 is improper and Applicant requests that it be withdrawn.

Applicant traverses the Section 103(a) rejections of claims 11-17 over *APA* in view of Takenaka and Kodama. As claims 11-17 depend from claim 10, the rejections rely upon the same misinterpretation of the Takenaka reference, and thus fail to the claimed limitations. In addition, the Office Action further relies upon portions of the Kodama reference that fail to correspond to all of the claimed limitations of claims 11-17 for the same reasons discussed above relating to the Section 102(b) rejections of claims 1-9. That is, the Kodama reference fails to correspond to limitations in claims 11-17 that are directed to limitations that are similar to those in claims 1-9, to which Kodama does not correspond. Accordingly, the rejections are improper and Applicant requests that they be withdrawn.

Applicant notes that minor amendments have been made to claims 1-17 to remove example reference numerals. These amendments are not being made to overcome any issues relating to patentability or to overcome the rejections raised by the Office Action, which fail for the reasons discussed above.

Applicant submits that new claim 18 is allowable over the cited reference for the reasons stated above in connection with the rejection of claim 1, and further because the cited reference fails to disclose "a comparator circuit to compare a voltage across the first resistor with a voltage across the capacitor and to compare a voltage across the second

resistor with the voltage across the capacitor to reduce variation in the oscillation frequency with temperature."

In view of the remarks above, Applicant believes that each of the rejections has been overcome and the application is in condition for allowance. Should there be any remaining issues that could be readily addressed over the telephone, the Examiner is asked to contact the agent overseeing the application file, Peter Zawilski, of NXP Corporation at (408) 474-9063.

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